

DBMS Backup without Suspending Updates and Corresponding Recovery Using Separately Stored Log and Data Files

Abstract

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A method for performing a system level backup of a log-ahead database management system (DBMS) without suspending updates by application programs is described. The DBMS comprises a database mainline system, a backup utility and a restore utility. The data and log records are stored on separate storage volumes. Log records are written to
10 identify objects that require special handling during the point-in-time recovery. The database engine operates normally during a backup except for suspending actions that would alter the file system catalog or write updates across a storage volume boundary; and by freezing the REDO log point in its checkpoint information. The backup utility copies the data volumes first and optionally the log volumes second while updates are
15 allowed. The resulting inconsistencies are resolved either during a DBMS restart or during a point-in-time (PIT) recovery performed by the restore utility.